

**REMARKS**

Claims 1-3 and 5-20 and claims 5-8, 11, 14, and 17-20 have been withdrawn from consideration. By this Amendment, claims 1-3, 15 and 16 are amended and claim 4 is canceled. No new matter is added. Reconsideration and withdrawal of the rejections are respectfully requested.

**I. The Claims Define Patentable Subject Matter**

The Office Action rejects claims 1-3, 9, 10, 12, 13 and 5 under 35 U.S.C. §102(e) over U.S. Patent No. 7,079,670 to Pan et al. (Pan); and rejects claims 4 and 16 under 35 U.S.C. §103(a) over Pan in view of U.S. Patent No. 6,175,640 to Wada. These rejections are respectfully traversed.

Independent claim 1 recites, *inter alia*, "a difference calculation section which calculates a difference between a distribution of positions of the feature points extracted from an image of the object to be detected in a frame at least one frame before a current frame and a distribution of positions of the feature points extracted from an image of the object to be detected in the current frame. Independent claim 15 recites, *inter alia*, "calculating a difference between a distribution of positions of feature points extracted from an image of the object to be detected in a frame at least one frame before a current frame and a distribution of positions of the feature points extracted from an image of the object to be detected in the current frame." Dependent claim 2 recites, *inter alia*, "detects a rotation angle of the object to be detected around an axis which is perpendicular to the detection surface." Support for the amendments can be found in the specification at, for example, page 28, lines 2-12 and original claims 1, 2, 4 and 15.

Independent claim 3 recites, *inter alia*, "a difference calculation section which calculates a difference between an area of the image of the object to be detected in a frame at least one frame before a current frame and the area calculated by the area calculation section,"

"outputs the control information corresponding to the calculated differences" and "information corresponding to an amount of movement of the object to be detected in an axis direction perpendicular to the detection surface." Independent claim 16 recites, *inter alia*, "calculating a difference between the calculated area and an area of an image of the object to be detected in a frame at least one frame before the current frame." Support for the amendments can be found in the specification at, for example, original claims 3, 4 and 16.

Pan discloses an apparatus for authenticating a user which merely estimates "a position difference" and "a direction difference" between pairs of a registered feature point and a target feature point. However, Pan fails to disclose the recitation "calculates a difference between the distribution of positions of the feature points extracted from an image of the object to be detected in a frame at least one frame before a current frame and the distribution of positions of the feature points extracted from an image of the object to be detected in the current frame" as recited in claims 1 and 15 of the present application.

Furthermore, Pan fails to teach or suggest "outputs the control information corresponding to the calculated difference" and "information corresponding to amount of movement of the object to be detected in an axis direction perpendicular to the detection surface," as recited in claims 3 and 16 of the present application. Pan further fails to teach or suggest the feature "detects a rotation angle of the object to be detected around an axis which is perpendicular to the detection surface," as recited in claim 2.

Wada discloses an apparatus that merely supplies from a CCD camera 13 "an image consisting of bright and dark parts corresponding to a pattern of a fingerprint." (see col. 3, lines 35-62 and Fig. 3). Wada fails to cure the deficiencies of Pan. Thus, the applied references, alone or in combination, fail to teach or suggest the recited features of claims 1, 3, 15 and 16 or claims dependent therefrom.

For at least these reasons, independent claims 1, 3, 15 and 16 and the claims dependent therefrom, are patentable over the applied references. Withdrawal of rejections of the claims is respectfully requested.

**II. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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